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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,914	10/25/2005	Richard Coogan	4662-37	1188

  

23117	7590	12/18/2007
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EXAMINER	
MCCLENDON, SANZA L	

  

ART UNIT	PAPER NUMBER
1796	

  

MAIL DATE	DELIVERY MODE
12/18/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/540,914

**Applicant(s)**

COOGAN ET AL.

**Examiner**

Sanza L. McClendon

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 8-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Please note that the record has changed. The new examiner will be Sanza L. McClendon, art unit 1796.

#### ***Response to Amendment***

2. In response to the Amendment received on December 4, 2007, the examiner has carefully considered the amendments. The examiner acknowledges the cancellation of claim 7. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

#### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-5 and 8-12 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nachtkamp et al (5,804,647) in view of Ingrisich et al (6,462,127).

6. Nachtkamp et al sets forth aqueous dispersion of self-crosslinking polyurethane, i.e., aqueous coating composition, wherein said polyurethane is obtained by reaction of 20-60% polyisocyanate A corresponding to the presently claimed (Ai), 20-60% polyol B possessing a molecular weight of 300-5000 such as a polycarbonate or polyether polyol corresponding to presently claimed (Av), 0-15% crosslinkable polyol E having a mol. weight of 62-250 corresponding to presently claimed (Aiv), 2-12% ionic polyol C

corresponding to presently claimed (Aii), 0-12% of nonionic polyol D possessing a mol. weight of 350-5000 corresponding to presently claimed (Aiii), and a diamine F corresponding to presently claimed active-hydrogen chain extender. From the examples, it is clear that the polyurethane is formed by reaction of a prepolymer with the diamine, i.e. chain extender. It is disclosed that the prepolymer possesses NCO/OH ratio of 0.8/2. The polyurethane possesses a average particle size of 10 to 1000 nm, preferably 30 to 500 nm. The aqueous dispersion comprises 10-60% water and thus 90-40% polyurethane. There is also disclosed coatings obtained from the polyurethane dispersion and a coated substrate with the coating. Although Nachtkamp et al discloses coatings comprising the aqueous polyurethane dispersion that is used to coat substrates, there is no explicit disclosure of the method for coating the substrate as required by present claim 11. However, it is clear that coating a substrate would necessarily inherently involves applying the composition to a substrate followed by drying, i.e. removal of water (col. 1, lines 7-12, col. 2, lines 33-55, col. 2, lines 66 to column 3 line 49, col. 3, lines 5-66, col. 4 lines 34-46, and 53-62, col. 5, lines 31-37, col. 6, lines 28-31 and 63-67, col. 7, lines 1-8, 30-39, and 55-60 and the examples).

7. Although there is no disclosure in Nachtkamp et al regarding the use of a reactive diluent. It is known in the art of aqueous polyurethane dispersion coatings to use reactive diluents as can be seen in Ingrisich et al. Ingrisich et al sets forth aqueous polyurethane dispersions, i.e. aqueous coating composition comprising self-crosslinking polyurethanes obtained by reaction of a similar polyurethane prepolymer with an active hydrogen containing chain extender. The composition additionally comprises other components, such as siccatives and solvents, wherein reactive diluents are disclosed, additionally, Ingrisich et al teaches the use of monomers having at least one or more double bonds capable of free radical polymerization in the composition. Said reactive diluent is used in the process of obtaining the polyurethane prepolymer. Therefore, the use of reactive diluents in aqueous polyurethane dispersions is known. Thus it would have been obvious for a skilled artisan to use a reactive diluent, as taught by Ingrisich et al, in the aqueous polyurethane dispersions of Nachtkamp et al. The motivation would have been a reasonable expectation of obtaining a coating that has a high degree of hardness and excellent chemical resistance as taught by Ingrisich et al in the absence of evidence to the contrary and/or unexpected results.

8. Although there is no disclosure in Nachtkamp et al nor Ingrisich et al regarding the gloss of the aqueous coating upon drying, given that Nachtkamp et al discloses coating compositions comprising a polyurethane as presently claimed and Ingrisich et al discloses the use of reactive diluents in similar coatings, it is deemed that the combination would possess the gloss as presently claimed.

**Conclusion**

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L. McClendon whose telephone number is (571) 272-1074. The examiner can normally be reached on Monday through Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Sanza L. McClendon

Examiner

Art Unit 1796

SMc